





AUGUST 20, 2014

IN ASSOCIATION WITH: MILLER RECREATIONAL DEVELOPMENT SCOTT GILLILAN, GILLILAN ASSOCIATES PREPARED BY:

MONTANA fISH, WILDLIFE AND PARKS AND GREATER YELLOWSTONE COALITION

FOR:

PROJECT MATERIALS SCHEDULE

6-12" Cobble 70 CY 1,200 Sq. Ft Donor Wetland Sod Salvaged Willow Clumps 30 Ea Coir Mat 700 120' x 6' 200 Metal anchor stakes

PROJECT COORDINATES (

PROJECT LOCATION

DRIVING DIRECTIONS

ENNIS 18 miles

HWY 287

VICINITY MAP

PROJECT LOCATION (RUBY CREEK, WALL CR.

NORTH

GAME RANGE)

MACATEE FAS

T9S R1W, NE 1/4, SW 1/4, NE 1/4 Section 10

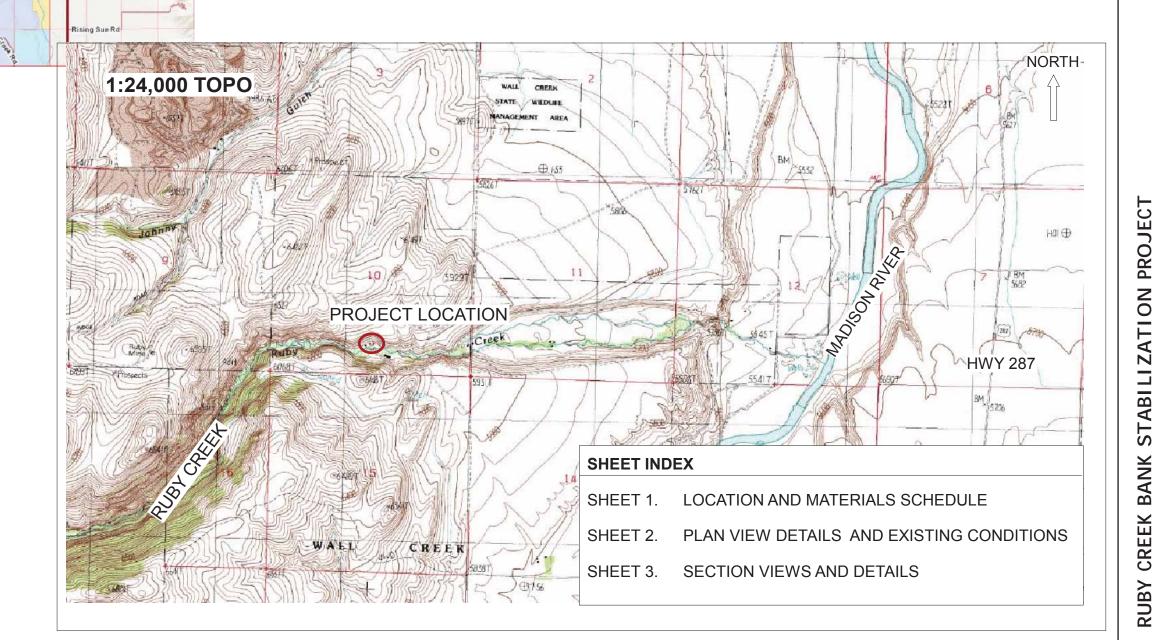
Hwy 287 South from Ennis approximately 18

miles to Macatee Bridge FAS. From FAS, south

and west 4.25 miles on 2-track dirt road through

Wall Creek Game Management Area.

LAT 45.059856 LON -111.709813







WILDLIFE AND PARKS AND GREATER YELLOWSTONE COALITION MILLER RECREATIONAL DEVELOPMENT N ASSOCIATION WITH:

AUGUST 20, 2014 **PROJECT** SCOTT GILLILAN, GILLILAN ASSOCIATES **ZATION** PREPARED BY:

CHANNEL RELOCATION AND FLOODPLAIN RECONSTRUCTION **PLAN OVERVIEW**

HISTORIC BUILDING 120' ERODING TERRACE BANKLINE BANK/TERRACE RECONSTRUCTION AREA (SEE SHEET 3)

STA 0+40 TERRACE FILL AREA STA 0+70

BANK LAYBACK AREA

STA 1+20 **EXISTING CHANNEL**

BANKS EXISTING CHANNEL

CENTERLINE

RELOCATED CHANNEL CENTERLINE RELOCATED CHANNEL

BANK LAYBACK AREA

STA 0+00

Scale 1: 242

BANKS

GENERAL TREATMENT NOTES:

- 1. RELOCATE CENTERLINE CREEK APPROX. 15 FT SOUTH OF CURRENT POSITION WHERE IT IS UNDER-MINING HISTORIC STRUCTURE.
- 2. SALVAGE AND REPLANT 30 WILLOWS AND SOD IN NEW ALIGNMENT TO NEW LB FLOODPLAIN
- 3. CONSTRUCT BIOENGINEERED LEFT BANK AND OVERBANK TERRACE. LAYBACK VERTICAL BANKS, TOPOSOIL AND INSTALL COIR BLANKET FOR EROSION PROTECTION..
- 4. EXISTING CHANNEL LENGTH = 120 FT; NEW CHANNEL LENGTH = 105 FT; MEANDER GEOMETRY AND SLOPE NOT SIGNIFICANTLY AFFECTED.
- 5. TOTAL DISTURBED AREA < 0.18 ACRES.



PROJECT AREA OVERVIEW

RUBY CR. PROPOSED CENTERLINE

RUBY CR. EXISTING CENTERLINE

120' ERODING TERRACE BANKLINE

CROSS-SECTION 3 -STA 1+20 (SHEET 3)

CAREX SOD DONOR AREA

CROSS-SECTION 2 - STA 0+40 (SHEET 3)

CROSS-SECTION 1 - STA 0+10

View upstream from Cross-section #1 to #2

EXISTING CONDITIONS:

- 1. OTHERWISE VERY STABLE, THICKLY VEGETATED CHANNEL HAS MIGRATED INTO A TERRACE THREATENING TO UNDERMINE HISTORIC STRUCTURE.
- 2. CHANNEL SLOPE = 0.56%
- 3. SUBSTRATE: D50 = 4", D85 = 9", DMAX= 12"
- 4. BANKFULL TOPWIDTH = 12 FT; DEPTH 2.15 FT
- 5. BASEFLOW 11 CFS; BANKFULL Q APPROX. 50 CFS.
- 6. ERODING LEFT BANK IS 120 LF; NEAR VERTICAL 6 8 FT FACE.



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